Canola meal can replace soybean meal in lactating dairy cow diets

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Almost all (98%) of the solvent-extracted soybean meal is used as an animal protein source worldwide. In the US, nine percent of this byproduct is fed to dairy cattle. More recently, canola meal has been used as a viable alternative replacement because of its availability and the quality of its protein.

Recent experiments have also reported consistent improvements in milk production and more efficient dietary nitrogen utilization when canola meal replaced soybean meal in dairy cow rations. Soybean meal has higher rumen degradable protein (50-70% of CP) when compared to canola meal (48-56% of CP), which is probably responsible for this difference in nitrogen utilization between diets containing both protein sources.
Since dairy cow diets also include forages that supply relatively high crude protein concentrations (i.e. alfalfa), it would be important to explore if there are any associative effects between the latter and canola or soybean meals in the dairy cow’s ration. Alfalfa silage is also a good source of rumen fermentable protein and NPN, which are likely to affect milk production and milk protein yield.

Recent research evaluating canola meal compared to other protein meals and forages, showed that milk protein concentration increased with canola but not with other meals, when fed with grass or legume silages as the forage base.

Experiments have also shown that when alfalfa silage rather than corn silage was the predominant forage in the diet it increased milk yield, total microbial protein, total essential amino acids flow to the omasum. At the present time there is no research that has compared the use of canola meal as the main supplementary protein, with diets containing soybean meal and alfalfa and corn silages as the forage base.

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